

REMARKS

By the present Amendment, claims 1-8 are cancelled and claims 9-27 are added. This leaves claims 9-27 pending in the application, with claim 9 being independent.

Substitute Specification

The specification is revised to eliminate grammatical and idiomatic errors in the originally presented specification. The number and nature of the changes made in the specification would render it difficult to consider the case and to arrange the papers for printing or copying. Thus, the substitute specification will facilitate processing of the application. The substitute specification includes no “new matter”. Pursuant to M.P.E.P. § 608.01(q), voluntarily filed, substitute specifications under these circumstances should normally be accepted. A marked-up copy of the original specification is appended hereto.

Rejections Under 35 U.S.C. § 112, Second Paragraph

Original claims 1-8 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. By the present Amendment, the originally filed claims have been rewritten to avoid the language alleged to be indefinite in the Office Action. All language of the presently pending claims is now believed to be clear and definite.

Thus, the pending claims are definite and comply with 35 U.S.C. § 112.

Objections to the Drawings

Figs. 1a-c and Fig. 2 stand rejected on the ground that they should include the legend “Prior Art” on the alleged ground that such drawings only illustrate “only that which is old”.

However, those drawings need to be interpreted in combination with the illustration of Fig. 3 such that they do not merely disclose what is old, when considered in that combination. Specifically Figs. 1a-c disclose the details of the filtration part 8 that is graphically illustrated in Fig. 3. Additionally, the filtration part 8 in combination with the capture device 62 and the stripping means 68 are provided in Fig. 2 at the filtration part 8 identified in Fig. 2. The capture device 62 and stripping means 68 are also present within the cylindrical filter 42, as disclosed.

Since the illustrations of Figs. 1 and 2 form part of the claimed invention, they are not prior art and should not be labeled as such in the drawings. Reconsideration and withdrawal of this requirement is requested.

Objection to Specification under 37 C.F.R. §1.171(a) and
Rejection of Claims under 35 U.S.C. §112, First Paragraph

The specification is objected to under 37 C.F.R. §1.171(a) and the claims are rejected under 35 U.S.C. §112, first paragraph, on the ground that the invention is not adequately disclosed. In support of this objection and rejection, it is contended that Figs. 1a-c and Fig. 2 relate to prior art and fail to disclose the capture device and stripping means and that Fig. 3, while disclosing the capture device and stripping means, does not disclose what the device is and how it is positioned within the alleged prior art filtering devices. Additionally, the elements of Fig. 3 are allegedly described in abstract and not in the detailed description.

However, pages 10-11 disclose the elements of Fig. 3 in detail. The assembly in Fig. 3 is identified by the reference number 8. Such reference number appears in the assembly of Fig. 2 to precisely locate where the Fig. 3 illustration is provided in the assembly drawing of Fig. 2. A similar use of “8” appears in Fig. 1. In this manner, the specification and drawings, disclose the

details of the invention illustrated in Fig. 3 and disclose adequately where the features of Fig. 3 appear in the assembly of Fig. 2 and how it relates to the illustrations in Figs. 1a-c.

Accordingly, the application adequately discloses the claimed invention to one skilled in the art. Reconsideration and withdrawal of the objection to the specification and the rejection of the claims under 35 U.S.C. §112, first paragraph, is requested.

Rejections under 35 U.S.C. §102

New claim 9 covers a filter element for a backwash filter device. The filter element comprises a filter part through which contaminated fluid can flow in a filtering direction, a captured device 62 and a stripping ring 70. The capture device is mounted adjacent the filter part and includes at least one rod-shaped magnet 64 for removing magnetizable portions from the contaminated fluid before the contaminated fluid flows through the filtration part. The stripping ring is movably mounted and the rod-shaped magnet for removing the magnetizable portions from the rod-shaped magnet as the ring is moved by backwashing fluid flow during backwashing.

By forming the filter element in this manner, the magnet removes magnetizable portions from the contaminated fluid while the stripping ring removes the magnetizable portions from the rod-shaped magnet during the backflushing operation. This structure provides a simple and effective mechanism before removing the magnetizable portions and disposing of those portions from the filter element.

Claims 1-7 stand rejected as being anticipated under 35 U.S.C. §102 by U.S. Patent No. 4,444,659 to Beelitz. The Beelitz patent is cited for disclosing a magnetic separator having an outer pipe 1, a cylindrical rod 5 inside the outer pipe, and a magnetic double rod of two individual rods 6 and 6a inside cylindrical rod 5 and joined together by spacer elements 7 and

displaceable within the cylindrical pipe by piston rings. Conical stopper rings 8 and 9 are interpreted as stripper rings arranged on the cylindrical pipe as allegedly disclosed in column 1, line 63, to column 3, line 20.

The Beelitz patent discloses a magnetic separator with direct washing having a separation chamber 1a and a dirt chamber 1b at axially spaced locations between outer pipe 1 and inner pipe 5. The separation and dirt chambers are separated by stopper rings 9 and 10. Each of the stopper rings 9 and 10 are fixed on the outer surface of inner pipe 5 and do not move. Within inner pipe 5, are two magnetic rods 6 and 6a connected by spacer element 7. During separation, the magnetic rods are in the upper position illustrated in Fig. 1 with ferromagnetic particles adhering to the pipe 5 adjacent the rods. To wash the separator, the magnet rods 6 are moved to the lower position illustrated in Fig. 2 by air pressure, with the solid particles that settled on the outer wall of the cylindrical pipe being displaced downwardly along the pipe toward the dirt chamber 1b. To return to the operational position of Fig. 1, pressure is applied to coupling 2 to move the magnetic rods back to the position of Fig. 1. During the magnet rod movement back to the operational position, the separated solid particles are retained in the dirt chamber 1c by the stripping effect of the stopper ring 9, with the base 9a extending at a right angle to the cylindrical pipe, and by the partial stream of medium to be separated between the stopper and the rings 9 and 10 into the dirt chamber 1b (column 2, line 63 – column 3, line 5).

The Beelitz stopper rings 8 and 9 are fixedly arranged on the cylindrical pipe (column 2, lines 10-15), and thus, are not movable by the fluid flow during back washing, as claimed. Since the rings 8 and 9 are separated from the magnetic rods 6 and 6a by the inner pipe 5, they are not movably mounted on a rod-shaped magnet for removing the magnetizable portions held on it as

the ring is moved by backwashing fluid flow during backwashing, as recited in claim 9.

Particularly, the rings are not loosely and directly surrounding the rod-shaped magnet, as claimed.

Additionally, the Beelitz patent does not have a filtration part. No such part is identified in the statement of the rejection.

Thus, the Beelitz patent does not anticipate or render obvious the subject matter of claim 9. None of the other cited patents cure these deficiencies in the Beelitz patent.

Claims 10-25, being dependent upon claim 9, are also allowable for the above reasons. Moreover, these dependent claims are further distinguished by the additional features recited therein.

Claim 10 is further distinguished by the rod-shaped magnet being a permanent magnet, particularly within the overall claimed combination.

Claim 11 is further distinguished by the rod-shaped magnet being an electromagnet. The Beelitz patent does not appear to disclose an electromagnet.

Claim 12 is further distinguished by the rod-shaped magnet extending along a longitudinal axis of the filtration part, within the overall claimed combination.

Claim 13 is further distinguished by the stripping being movable while the electromagnet is de-energized. No de-energizing an electromagnet is disclosed in the Beelitz patent. Moreover, no movement of the stopper rings 8 and 9, alleged to be the stripper rings, is disclosed.

Claim 14 is further distinguished by the filtration part being conical and having a particular structural length to cross section dimension. No such conical structure is disclosed or rendered obvious by the Beelitz patent.

Claim 15 is further distinguished by the frustoconical part being a slotted hole screen tubular filter element. No such filter element is disclosed in the Beelitz patent. In fact, no filter element whatsoever is disclosed in the Beelitz patent.

Claim 16 is further distinguished by the rod-shaped magnet extending along one-half the length of the filtration element adjacent its end providing fluid entry and having the greatest cross section. No such orientation of the Beelitz rods 6 and 6a are disclosed.

Claim 17 is further distinguished by the stripping ring being annular and surrounding the rod-shaped magnet loosely, with the ring being located on the base part in its rest position and being spaced axially from the rest position during filtering operation. No such movement of the Beelitz rings are disclosed.

Claim 18 is further distinguished by the rod-shaped magnet having two axial stops with the stripping ring being movable between the two stops. No such stops are disclosed or rendered obvious by the Beelitz patent.

Claim 19 is further distinguished by the filtration part having an inlet at its axial end and outlet passages in its lateral sides, and by the stripping ring loosely surrounding and movable along the magnet longitudinal axis in response to fluid flow through the filtration part. No such filtration part is disclosed or rendered obvious by the Beelitz separator. Additionally, the Beelitz separator does not have the claimed movable stripping ring movable in response to fluid flow.

Claim 20 is further distinguished by the filtration part longitudinal axis and the magnet part longitudinal axis being coaxial.

Claims 21 and 22 are further distinguished for the same reasons advanced above in connection with claim 18.

Claim 23 and 24 are further distinguished by the further distinguished by the specific claimed shapes of the filtration part. No filtration part is disclosed in the Beelitz patent.

Claim 25 is further distinguished by the rod-shaped magnet extending along one-half of the length of the filtration part adjacent the inlet axial end. No such disclosure of a magnet relative to a filtration part is disclosed or rendered obvious by the Beelitz patent.

Claim 26 is further distinguished by the rod-shaped magnet being fixedly mounted in the filtration part. In contrast, the Beelitz magnets are movable in its housing.

Claim 27 is further distinguished by the stripping ring being movable relative to both the rod-shaped magnet and the filtration part. In contrast, only the Beelitz magnets are movable, while the rings are fixed relative to the remaining structure of its separator.

In view of the foregoing, claims 9-27 are allowable. Prompt and favorable action is solicited.

Respectfully submitted,



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